ARKANSAS ALGEBRA II · UNIT 2 · 10 QUESTIONS

Polynomials and Rational Functions — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **For $f(x) = x^4 - 3x^2$, as x approaches positive infinity, the value of f(x) approaches**

A negative infinity

B positive infinity

C 0

D 4

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2 The vertical asymptote of $y = \frac{1}{x + 4}$ is

- **A** $x = 4$
- **B** $y = 0$
- **C** $x = -4$
- **D** $y = -4$

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3 The horizontal asymptote of $y = \frac{3x - 2}{2x + 5}$ is

- **A** $y = 3$
- **B** $y = 2$
- **C** $y = \frac{2}{3}$
- **D** $y = \frac{3}{2}$

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4 The quotient of $\frac{x^2 - 2x - 15}{x - 5}$ is

- **A** x + 3
- **B** x - 3
- **C** x + 5
- **D** x - 5

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5 The sum of the roots of $x^2 + 5x - 6 = 0$ is

- **A** 5
- **B** -5
- **C** 6
- **D** -6

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6 The product of the roots of $x^2 - 2x - 24 = 0$ is

- A 24
- B -2
- C -24
- D 2

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7 The domain of $y = \frac{x + 1}{x^2 - 16}$ excludes

- A -1 only
- B 4 only
- C -4 only
- D -4 and 4

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8 **The factored form of $x^3 + 1$ is**

- **A** $(x + 1)(x^2 - x + 1)$
- **B** $(x + 1)(x^2 + x + 1)$
- **C** $(x - 1)(x^2 - x + 1)$
- **D** $(x - 1)(x^2 + x - 1)$

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9 **The number of distinct real solutions of $x^2 - 6x + 9 = 0$ is**

- **A** 2
- **B** 0
- **C** 1
- **D** 9

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10 **If $f(x) = x^3 + 3x^2 - 2$, then $f(-2)$ is ____**

ANSWER

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ANSWER KEY

1.	B	**5.**	B	**9.**	C
2.	C	**6.**	C	**10.**	2
3.	D	**7.**	D		
4.	A	**8.**	A		

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